We claim:

1.   A method for data transport on an IP network, the method comprising:

creating one or more virtual private networks to transport said data; wherein said creating uses tunneling methods

5   using one or more multicast routing protocols on the ends of each virtual private network tunnel.

2.   The method of claim 1, further comprising:

attaching a multicast address to a single application payload then routing the

10   transport of said application payload to multiple remote clients through said virtual private network tunnels.

3.   The method of claim 1, further comprising:

multicast routers coordinating the delivery of multicast packets from senders to

15   receivers;

wherein said routers may or may not be located at the said application payload creation or termination site.

4.   The method of claim 3:

20   wherein client or host computers connect via multiple interconnect topologies including but not limited to peer-to-peer, hub and spoke, or meshed systems.

5.   The method of claim 2:

wherein said tunnel creation, tear-down and multicast group address assignment

25   may be instantiated in a software application running locally on the said client system.

6.   The method of claim 5:

wherein said instantiated software my operate within said one or more tunnels;

wherein one or more tunnels may encompass hardware multicast routers in said one

30   or more interconnect topologies.

7. The method of claim 1, further comprising:

using encryption to encapsulate the media data such that said public network devices can not manipulate, discriminate or control the transport delay of said application payload between tunnel end points.

8. The method of claim 1, further comprising:

using the method as applied to endpoints, ingress / egress network access points and network hardware infrastructures.

9. The method of claim 1, further comprising;

multiple peers that reply to a multicast / VPN instance;

wherein packets are forwarded to the next network hop without duplication;

wherein the next hop of the egress point of the said virtual private network represents multiple endpoints;

wherein said packets are duplicated at the said egress point for forwarding to each of the multiple peers.

10. A method for reduction of multipoint transport delay, the method comprising;

using an application and system to transport real-time media data;

wherein one or more servers authenticates one or more user ID's for permission and assignment to said multicast group;

wherein one or more servers generates said multicast group routing addresses for deliver to said multicast enabled routers;

wherein said multicast router instantiates one or more multipoint communication tunnels between said creation and termination points within said one or more public or private networks;

wherein the said transport of said real-time media data payload never leaves the network during transport. need not be processed, compressed, decompressed, encrypted or un-encrypted, controlled or manipulated by said server.

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11. The method of claim 10,

wherein the said media data payload is not processed, compressed, decompressed, encrypted, decrypted or manipulated by said server during transport.

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